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April 11, 1997

To: CALFED

From: Robert B. Spies, Ph.D.
Applied Marine Sciences

Through: PWT Contaminants Working Group

Re: Science in Support of Bay-Delta Restoration

This is in response to my involvement in the PWT Contaminants Working Group and the recent request for comments from CALFED on a proposed RFP to remediate contaminant inputs to the Bay--(heavy metal inputs from above the upper Sacramento River, pesticide and selenium inputs, etc.). It appears that we are early in the evolution of trying to fix the problems in the Delta, for example the declining fish populations and degraded riparian habitats. We have some tentative answers (water diversions), there are some well publicized "toxics problems", we are looking for some possible solutions, and a lot of money is becoming available. We do not yet have a systematic and comprehensive approach to finding the solutions, and it appears that CALFED is contemplating some short cuts by direct remediation of some high visibility problems. At the same time the PWT Contaminants Working Group has not been able to expend the time and effort to take a comprehensive approach to the question of whether toxics are problem in the watershed. They have a collection of proposals focused on a number of potential problems, but they are not clearly related to one another, nor is there any logical process evident to an outsider as to why those particular proposals have been selected over other possible efforts. There is no publically defendable context for these proposals.

There also appears to be a notion that we can somehow skip the science, and go directly to the engineering fix. Perhaps some see applied science as a black hole for money and that scientists can never agree about anything. This is a potentially disastrous way of viewing the world, and mother nature can soon make fools of us all.

It is apparent that we are truly lacking a consensus process for proceeding with restoration and until we have identified such a process, the people of California have wasted their vote for Proposition 204, the federal tax payers will lose money, and CALFED may not identify the root problems that need fixing by engineers.

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The Proposal

Here are some elements of a successful restoration program that would help us :

1. High level independent scientific and engineering expertise should be enlisted to identify the framework for proceeding with restoration. A panel of the best ecotoxicologists in the country need to be assembled for review of the program and to help set priorities. They should help formulate an adaptive, multidisciplinary plan that relates risks to the ecosystem from toxic compounds, prioritizes research questions and identifies the most promising approach for finding out where, when and how toxics may be a problem in the Bay-Delta. Their efforts should also encompass other ecological programs in the system focused on habitat and water flows.

2. An administrative structure needs to be established that is independent of the government agencies that may stand to benefit from the program. The program must be administered by a core professional staff that is not directly affiliated with any particular agency or agenda, as has been used in other large programs, such as the Alaska Exxon Valdez Restoration Program. The mission statement of the organization should encompass the adaptive management approach. Independent review of the program will promote pubic acceptance, increase accountability, and actually benefit the agencies in the long-term.

3. A clear set of rules and scientific leadership that recognizes the need for science to inform restoration, and the need for discipline in application of research to ecosystem restoration.

4. There must be public accountability and active interpretation and dissemination of information for the public, perhaps through the school systems and other institutions with educational functions (e.g., University of California, Davis);

5. The funds available could be placed in an interest-bearing account to fund restoration in perpetuity so that an adaptive management approach could be implemented. The fund should be managed as an inflation-proofed endowment, with only a conservative fraction of the income available for expenditure. Clearly, restoration needs will extend over many years, and it is only through stable, long-term funding that CALFED can fulfill its ultimate goal, to restore the Delta to a healthy, productive, world-renowned ecosystem. Throwing lots of money at the problems over a short period of time is not likely to be efficient or effective.

CC: Sam Luoma, USGS
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